

An interesting feature connected with the manufacture of black marble is the depicting, by the application of an acid, representations of figures, flowers, Egyptian hieroglyphics, and other objects upon a polished surface.

The method employed in doing this kind of engraving is similar to that pursued with respect to copper, viz., by first tracing with wax or varnish upon the marble the object intended to be represented; then, when the preparation is perfectly set, with a point marking in the finer parts of the figure. It is then covered with an acid, which bites off the polished surface of the marble which was not covered with the preparation, leaving those parts which were covered standing in slight relief: the wax is then cleaned off. Thus it will be seen that any one with a knowledge of drawing could practise this part of the art; not, so, however, with regard to another style of engraving on marble, which I will mention, and which is peculiarly English, such productions from abroad being unknown.

There is no preparation of wax, or application of acid used here, the entire process is done by gravers' points, and diamonds, hence called the "diamond engraving." It must be observed, that for effect in this work the artist is confined to a most limited space, viz., from a black polished surface to a grey ground, the natural colour of the marble before it is polished.

Mosaic.—Many of the marbles of England are now presented to the notice of the public, not only in their native and single state, but displayed in all the varied combinations of mosaic work, which, notwithstanding its being the art last introduced to the English ornamental masons, is by no means the least successful. Considering the beauty and durability of mosaic work, it is a matter of surprise that it should for so long a time have escaped the attention of our native artisans.

Sir Christopher Wren, alive to the importance of having a tessellated pavement in St. Paul's, executed a beautiful work under the dome, which, when seen from the whispering gallery, has all the appearance of a delicately inlaid table.

Mosaic work may be divided into three classes:—1st. That which is composed of small pieces of coloured glass, and so much used for jewellery purposes. 2ndly. Works consisting of coloured marbles. 3rdly. That which comprises harder stones, called "Pietra Dura," and is mosaic in "high relief;" but it is to the second division to which the English masons have directed their attention.

I would mention in passing, respecting mosaic in glass, that a writer in treating on the subject states that the workers have 750,000 different tints.

For some time after this kind of work was practised, not many were found to give the workers that credit which they really deserved for the progress they were making; and they were frequently discouraged by ill-natured remarks of others, who said that the attempt was useless—English mosaics could never bear comparison with the Roman work.

Yet these are often sold by the Italians themselves as superior works, thus shewing that they think more highly of the English mosaic than do some of our own people.

Among the marbles is one of singular stratification and appearance, which has obtained the name of rosewood marble, and is particularly adapted for ornaments of every description.

The marbles of Devonshire and the west appear boundless in variety. The greater part belong to the class of Madreporas, and as specimens are interesting.

Among the importations from Italy is a material known as *Verde de Prato*, or the green marble of Prato, which is wrought not only into vases, but is elaborately sculptured into figures and animals, and is much esteemed. Now, among the serpentine marbles of the west, is a substance resembling the imported stone, but altogether superior, both in texture and colour: and yet, notwithstanding this fact, scarcely any thing has been attempted in it.

Sir Henry De la Beche, when speaking of this class of our native mineral substances, observes, that hitherto it has been most strangely neglected: and, in the same strange, he says,

because much of it is extremely beautiful, and the variety of tints almost endless.

Now, however, there is every probability of this stone being successfully introduced to public notice, a quantity having been consigned to me for the purposes of manufacture.

If space permitted, the marbles of the different counties of the British islands might be mentioned, which would fully bear out the statement, that there is scarcely a district of any extent but presents features of interest.

From Bablacombe, Chudleigh, Plymouth, and other parts of Devonshire, are obtained blocks (sufficiently large for pedestals, &c.) of marbles, some resembling the foreign jasper, others not unlike the Seracolin, a variety like some specimens from Belgium, others with a dark green ground not unlike lava; other specimens, again, have somewhat the character of the French griotte and marble from the Alps, and some specimens from Ketley Park of a greenish tint, very much resemble some of the Derbyshire stalactites, which are extremely beautiful.

The Dolomite, a cream-coloured marble, from the Hebrides, and the flesh, or rose-coloured marble, are very attractive.

The black marbles from Ireland are well known, from their containing so great a number of fossil remains, and are interesting; but the most approved are the beautiful varieties of green serpentine, mixed with carbonate of lime. There are numerous other specimens from that country, and from the locality known as the Twelve Pin mountains, upwards of thirty varieties, of different colours and amalgamations, have been procured.

From Wales the most usual marble is black, with shells and marine substances imbedded: and from Glamorganshire a variety of the magnesian conglomerate is found, which is rather interesting, and capable of being wrought into ornaments.

The Oolite series of limestones, of Somersetshire, which are very beautiful, are beginning to claim that attention they deserve; but at present the manufacturers in that part have put forth only the most meagre description of works, but the material itself is well adapted for making into forms.

From Clifton and its vicinity alone, above a dozen varieties are obtained, all very beautiful when wrought and polished—the most prominent being a *breccia* called conglomerate; the Bacon stone, as exhibiting clear lines of stratification, whence its name; and the very pretty substance from Cotham, named landscape marble.

The Oolites themselves are very interesting: some of them exhibit traces of a moss-like appearance, on a minute coral ground; some are nearly white or grey, requiring the closest examination to detect their oolitic formation; others again are nearly a dark brown.

From the Mendip hills, in the same county, come specimens of a black limestone, with shells and marine remains, others with veins of white.

At Frome most interesting specimens are obtained of similar substances, but differing in variety; and from

Wrington, in the same county, is obtained a singular *Breccia*-looking marble.

The *Blue Lias* limestone, unpolished, from Langport, Somersetshire, would rival a volcanic substance imported from Italy, known as lava, but which really is not that substance.

The Isles of Man and Anglesea abound with marbles of a most interesting description; and from

Dorrington, near Hereford, some very pretty specimens have been obtained.*

NEUBER'S LIQUID GLUE.—For repairing anything short of a kingdom out of joint, or a broken constitution, this "Improved Liquid Glue" seems quite up to the mark. We have tried it on a china dish, a wooden box, and a meerschmann pipe, with equally satisfactory results. In the workshop, if (as stated) it can be used at as little cost as common glue, it would seem to have many advantages.

* We have been led to print so much of Mr. Hennessy's paper, as well on account of the interest and originality of the subject as in the hope that the matter may receive the attention it really deserves. Illustrated as the lecture was by a great variety of specimens (upwards of 300), it would seem worthy the attention of mechanic and scientific institutions.

THE ORDERS.*

If there be any class of works, which we could especially indicate as having contributed to the mystification of the subjects which they profess to elucidate, that class would be "elementary treatises." We speak not of a considerable number of books in which the word "elements" appears in the title-page, whilst the work itself expounds the whole matter of a science, and can be referred to with advantage by all. Such are the elaborate treatises on chemistry by Turner and Henry. We refer rather, to the class of productions, which have till recently, formed the matter of encyclopaedias, and popular works, generally written by men who could have no practical or professional knowledge of the subjects they attempted to explain, and from which, serious mis-statements have been put forth as accurate, and have passed unquestioned where previous information might have been expected.

Yet we have ourselves argued in favour of the acquirement of that knowledge which might be called *superficial*. The ingredients of knowledge are being diffused throughout all channels, and what is needed is the framework on which to arrest them. But to prepare this demands the hand of a master, not of one who is not himself accurate in his knowledge of elements. To Mr. Leeds, as an expounder of the subject in which we now meet with him, our objection, long since registered, as to the false notions inevitably promulgated by non-professional writers, does not apply; since he has not, like some who deal with another style of architecture, forgotten art in its mere grammar, nor allowed the opportunity to go by of exploding some of the old fallacies, under which classical architecture has so long laboured. The extra-architectural world may indeed be said to have learnt, some short time since, that architecture comprehended something more than "the orders," but if he had only shown this more perspicuously than others, we should give him credit. He may rest satisfied that we (whatever he may say of others), are not amongst those who would deny the advantage to the art, and to architects, from popularizing the study of architecture.

Mr. Leeds is careful to show that the ancients did not observe that adherence to unvarying forms and proportions which the popular notion of five orders has attributed to them. He shows that not only are there distinct peculiarities of character in one order—for example, the Ionic—almost as much entitled to separate classification as the generally recognised features of the orders, but he reminds us that it is in the works of modern architects alone that any attempt at the reproduction of an example can be found.

Allowing that a general classification into orders is obvious, at least in the case of the Doric, Ionic, and Corinthian, he proves the great variety of which each of these is susceptible, by showing that there is greater resemblance between Tuscan and Doric, than between such examples as the Corinthian of the Temple of Jupiter Stator, and the variation of the same order in the Temple of Vesta at Tivoli,—and he thence deduces that the orders should be rather in the light of styles, than, as they are commonly, considered as unvarying, and five in number.

Our author has contrived to explain much of the details of the orders, although not very fortunately seconded in regard to illustrations, and his attempt to discover, what he defends himself in calling, "aesthetic principles" is in many cases the occasion of much ingenuity. Although the writer brings to his subject a perfect knowledge of the orders, he has, we regret to find, not taken the opportunity to do more for the improvement of the nomenclature, a subject for which he was so well competent. For example, to call the moulding in the raking cornice of the Grecian Doric order "cymatium," when the section is that which elsewhere is called "echinus," and when he, in a third place, says that the "cymatium" is a moulding whose section is convex below and concave above, seems to us perpetuating one of the old difficulties to the student, which we have already referred to.

The author has, too, we think, erred in some cases, by that which he studiously avoids else-

* *Elementary Architecture for the Use of Beginners:—The Orders and their Aesthetic Principles.* By Mr. W. H. Leeds, Wreale.